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Illinois, Dept. of Public Health, Statistical Office

THE STATISTICAL OFFICE OF THE
ILLINOIS DEPARTMENT OF PUBLIC HEALTH

A CURRENT DESCRIPTION

PREPARED BY THE STATISTICAL OFFICE

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THE STATISTICAL OFFICE OF THE
ILLINOIS DEPARTMENT OF PUBLIC HEALTH

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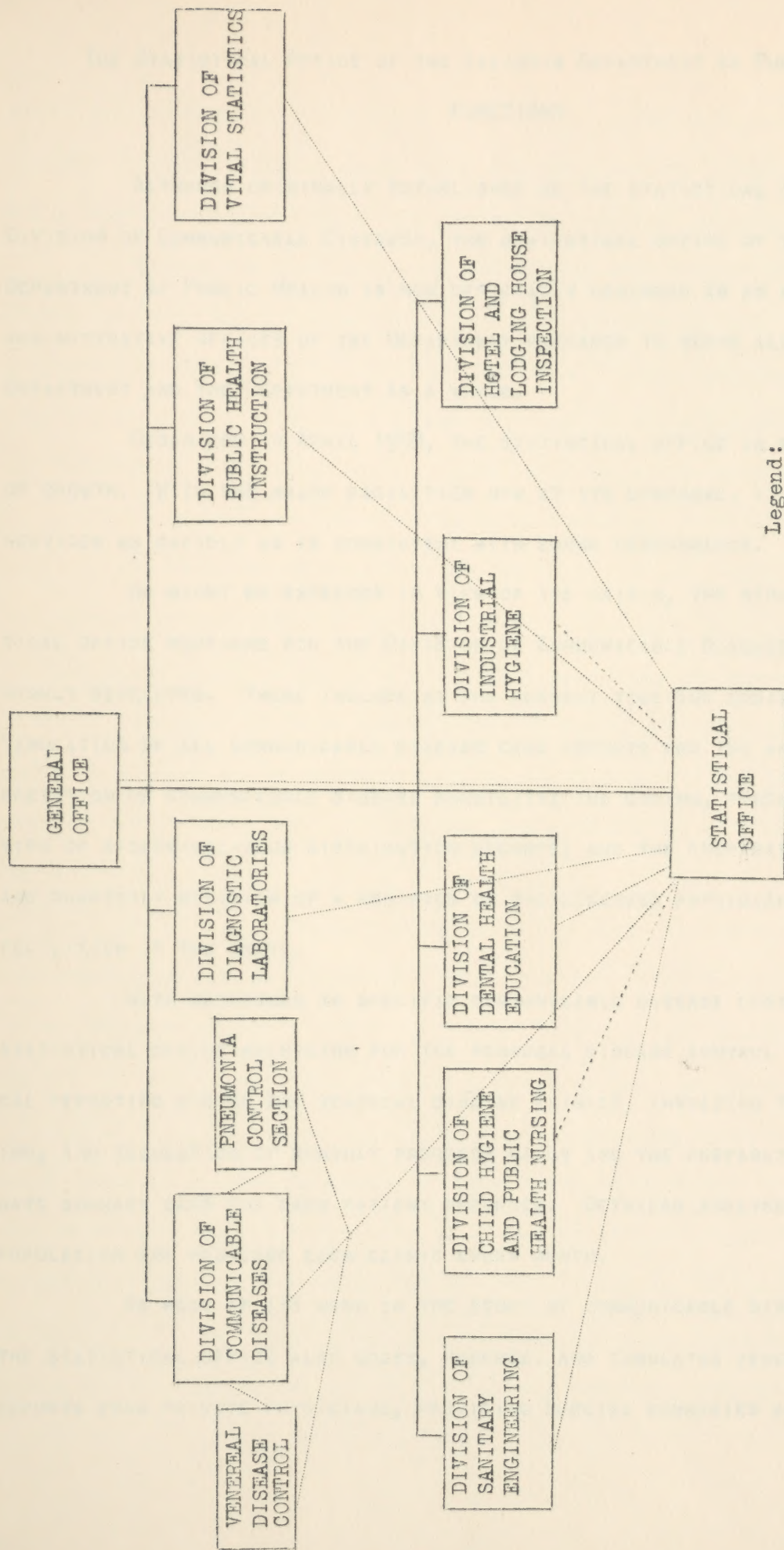
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Legend:

Administrative relations —
 Established service
 Projected services

Figure 1

DIAGRAM OF THE DIVISIONAL ORGANIZATION OF THE ILLINOIS DEPARTMENT OF PUBLIC HEALTH
 SHOWING DEPARTMENTAL RELATIONS OF THE STATISTICAL OFFICE

THE STATISTICAL OFFICE OF THE ILLINOIS DEPARTMENT OF PUBLIC HEALTH

FUNCTIONS

ALTHOUGH ORIGINALLY ESTABLISHED AS THE STATISTICAL SECTION OF THE DIVISION OF COMMUNICABLE DISEASES, THE STATISTICAL OFFICE OF THE ILLINOIS DEPARTMENT OF PUBLIC HEALTH IS NOW OFFICIALLY REGARDED AS AN ARM OF THE GENERAL ADMINISTRATIVE OFFICES OF THE DEPARTMENT PREPARED TO SERVE ALL DIVISIONS OF THE DEPARTMENT AND THE DEPARTMENT AS A WHOLE.

ORGANIZED IN APRIL 1938, THE STATISTICAL OFFICE IS STILL IN PROCESS OF GROWTH. WITH THE MAJOR FACILITIES NOW AT ITS DISPOSAL, IT IS EXTENDING ITS SERVICES AS RAPIDLY AS IS CONSISTENT WITH SOUND PERFORMANCE.

AS MIGHT BE EXPECTED IN VIEW OF ITS ORIGIN, THE SERVICES THE STATISTICAL OFFICE PERFORMS FOR THE DIVISION OF COMMUNICABLE DISEASES ARE THE MOST HIGHLY DEVELOPED. THESE INCLUDE AT THE PRESENT TIME THE CODING, PUNCHING, AND TABULATION OF ALL COMMUNICABLE DISEASE CASE REPORTS AND THE ANALYSIS AND INTERPRETATION OF COMMUNICABLE DISEASE MORBIDITY; THE CODING, PUNCHING, AND TABULATION OF BIOLOGICAL-DRUG DISTRIBUTION RECORDS; AND THE PREPARATION, MAINTENANCE, AND QUARTERLY REVISION OF A REGISTER OF THE LICENSED PHYSICIANS AND MEDICAL FACILITIES OF THE STATE.

WITH REFERENCE TO SPECIFIC COMMUNICABLE DISEASE CONTROL PROBLEMS, THE STATISTICAL OFFICE MAINTAINS FOR THE VENEREAL DISEASE CONTROL OFFICE A MECHANICAL REPORTING SYSTEM FOR VENEREAL DISEASE CLINICS, INVOLVING THE CODING, PUNCHING, AND TABULATION OF MONTHLY PROGRESS CARDS AND THE PREPARATION OF AN UP-TO-DATE SUMMARY CARD FOR EACH PATIENT REPORTED. DETAILED ANALYSES OF ITS CLINIC POPULATION ARE PROVIDED EACH CLINIC EVERY MONTH.

AS PART OF ITS WORK IN THE STUDY OF COMMUNICABLE DISEASE MORBIDITY, THE STATISTICAL OFFICE ALSO CODES, PUNCHES, AND TABULATES VENEREAL DISEASE CASE REPORTS FROM PRIVATE PHYSICIANS, PROVIDING SPECIAL SUMMARIES AND ANALYSES AT

PERIODICAL INTERVALS. IT ASSISTS WITH SPECIAL INVESTIGATIONS IN THE FIELD OF VENEREAL DISEASE CONTROL, AMONG WHICH MAY BE MENTIONED RECENT STUDIES OF SEROLOGIC SURVEYS OF SYPHILIS AND THE CONTROL OF PRENATAL SYPHILIS IN PREGNANCY.

DURING THE PAST YEAR, THE STATISTICAL OFFICE WAS INSTRUMENTAL IN ESTABLISHING AN ANTI-VENEREAL-DISEASE DRUG-DISTRIBUTION PLAN IN ALL FULL-TIME LOCAL PUBLIC HEALTH UNITS. IT UNDERTAKES THE CODING, PUNCHING, AND TABULATION OF ALL DRUG-DISTRIBUTION RECORDS AND PREPARES ON THE ALPHABETIC PRINTING TABULATING MACHINE THE MONTHLY DRUG LETTERS WHICH GO OUT TO PARTICIPATING PHYSICIANS.

IN ASSISTING WITH THE STATE-WIDE PNEUMONIA CONTROL PROGRAM, THE STATISTICAL OFFICE SUPERVISES THE CODING AND DIRECTLY UNDERTAKES THE PUNCHING OF ALL REPORTS OF LABORATORY EXAMINATIONS AND PHYSICIAN'S PNEUMONIA CASE REPORTS. IT PROVIDES EXHAUSTIVE TABULATIONS OF THIS MATERIAL SEMI-ANNUALLY AND PREPARES ELABORATE ANALYSES OF THESE TABULATIONS FOR DISTRIBUTION TO MEMBERS OF THE ADVISORY COUNCIL OF THE PROGRAM. IN COLLABORATION WITH THE PNEUMONIA CONTROL OFFICER, IT COMPILES SPECIAL SUMMARIES AND PREPARES STUDIES OF SPECIFIC PROBLEMS FOR WIDER PUBLICATION.

IN UTILIZING ROUTINE COMMUNICABLE DISEASE CASE REPORTS OF PNEUMONIA FOR ADVANCEMENT OF THE PNEUMONIA CONTROL PROGRAM, THE STATISTICAL OFFICE SUBMITS TO THE PNEUMONIA CONTROL OFFICE A WEEKLY LISTING OF ALL COMMUNICABLE DISEASE CASE REPORTS OF PNEUMONIA. THE PNEUMONIA CONTROL OFFICE ALSO OBTAINS, FROM THE DIVISION OF VITAL STATISTICS, COPIES OF REPORTS OF DEATHS FROM PNEUMONIA. IN ALL THESE CASES OF ILLNESS OR DEATH IN WHICH THERE IS NO RECORD OF A SPECIMEN HAVING BEEN SUBMITTED FOR BACTERIOLOGICAL EXAMINATION TO A LABORATORY APPROVED FOR PNEUMOCOCCUS TYPING, THE PHYSICIAN IS CIRCULARIZED FOR SUPPLEMENTARY INFORMATION BY MEANS OF A SHORT QUESTIONNAIRE. THE QUESTIONNAIRES RETURNED ARE THEN FORWARDED TO THE STATISTICAL OFFICE FOR CODING, PUNCHING, AND TABULATING.

TO FACILITATE TECHNICAL CONTROL OF BACTERIOLOGICAL LABORATORIES APPROVED FOR PNEUMOCOCCUS TYPING AND TO ASSIST IN SECURING COMPLETE REPORTING OF LABORATORY EXAMINATIONS PERFORMED, MONTHLY LABORATORY REPORTS ARE PREPARED. ALL THE EXAMINATIONS REPORTED DURING THE PRECEDING MONTH BY A GIVEN LABORATORY ARE LISTED AND THE DISTRIBUTION OF CASES WITH REFERENCE TO LABORATORY FINDING IS SUMMARIZED BOTH FOR THE PARTICULAR LABORATORY AND FOR THE WHOLE GROUP OF PARTICIPATING LABORATORIES. THESE REPORTS ENABLE EACH PARTICIPATING LABORATORY TO REVIEW ITS PERFORMANCE IN COMPARISON WITH THAT OF THE ENTIRE GROUP AND TO DETECT AND SUPPLY OMISSIONS IN REPORTING.

A SUMMARY OF THE SERVICES PERFORMED BY THE STATISTICAL OFFICE IN THE SPECIFIC AREA OF COMMUNICABLE DISEASE CONTROL IS PRESENTED IN TABLE 1, WITH INDICATIONS OF THE RELATIVE VOLUME OF WORK PERFORMED IN EACH CATEGORY, STATED IN THE FORM OF APPROXIMATE ESTIMATES BASED ON OPERATIONS OF THE CALENDAR YEAR 1939.

IN A FIELD LESS HIGHLY DIFFERENTIATED INTERNALLY THAN THAT OF COMMUNICABLE DISEASE CONTROL, THE SERVICES UNDERTAKEN BY THE STATISTICAL OFFICE FOR THE DIVISION OF DENTAL HEALTH EDUCATION HAVE UNDERGONE A COMPARABLE DEGREE OF EXPANSION. THE OPERATIONS CONDUCTED AT THE PRESENT TIME COMPRISE THE SERIALIZING, CODING, PUNCHING, EXTENDING, AND TABULATING OF THE REPORTS OF DENTAL HEALTH EXAMINATIONS OF 70,000 SCHOOL CHILDREN EACH YEAR, CONDUCTED IN THE FIELD BY SIX STAFF DENTISTS. BY THE INSTALLATION OF ELECTROMECHANICAL ACCOUNTING METHODS IN 1938, THE EXAMINERS HAVE BEEN RELIEVED OF ONEROUS CLERICAL DUTIES AND FAR MORE NUMEROUS AND PENETRATING ANALYSES OF THEIR WORK HAVE BEEN MADE POSSIBLE. AT THE PRESENT TIME THE REPORTING SYSTEM INCLUDES THE PRODUCTION OF CONTINUOUS SCHOOL SUMMARY CARDS, THE PROMPT PREPARATION OF COMPREHENSIVE REPORTS FOR THE LOCAL GUIDANCE OF DENTAL HEALTH WORK IN THE SCHOOLS VISITED, AND THE DETAILED

SUMMARY OF SERVICES
EXTENDED TO THE DIVISION OF COMMUNICABLE DISEASES, WITH COMPARATIVE ESTIMATES OF
THE ANNUAL VOLUME OF OPERATIONS BASED ON EXPERIENCE OF THE CALENDAR YEAR 1939

<u>JOB</u>	<u>PRINCIPAL OPERATIONS INVOLVED</u>	<u>ESTIMATE OF VOLUME</u>	
		COUNT	UNIT
(1) COMMUNICABLE DISEASE CASE REPORTS, EXCLUSIVE OF VENEREAL DISEASE	CODING, PUNCHING, TABULATING	50,000	TABULATING CARDS
(2) COMMUNICABLE DISEASE MORBIDITY	COMPUTATION, ANALYSIS, INTERPRETATIONS; EDITING, COMPOSITION; TYPING.	- -	PERIODICAL STUDIES
(3) BIOLOGICAL-DRUG DISTRIBUTION RECORDS	CODING, PUNCHING, TABULATING	13,000	TABULATING CARDS
(4) MEDICAL REGISTER OF LICENSED PHYSICIANS AND MEDICAL FACILITIES	CODING, PUNCHING NEW ENTRIES QUARTERLY RELISTING	450 5,000	TABULATING CARDS
(5) VENEREAL DISEASE CLINICS			
(A) PROGRESS CARDS	PUNCHING, SORTING, GANGPUNCHING	108,000	TAB. CARDS
(B) SUMMARY CARDS	CHECKING, PUNCHING	42,000	TAB. CARDS
(C) MONTHLY REPORTS TO CLINICS	TABULATING	2,016	MACH. TAB- ULATIONS
(D) SUPPLEMENTARY CLINIC ACTIVITY REPORT	TABULATING	144	MACH. TAB- ULATIONS
(E) QUARTERLY CLINIC ACTIVITY REPORT	TABULATING	4	MACH. TAB- ULATIONS
(6) VENEREAL DISEASE CASE REPORTS	CODING, PUNCHING, TABULATING	15,000	TABULATING CARDS
(7) ANTI-VENEREAL-DISEASE DRUG DISTRIBUTION			
(A) DRUG-DISTRIBUTION RECORDS	CODING, PUNCHING, TABULATING	34,000	TABULATING CARDS
(B) MONTHLY DRUG LETTERS	TABULATING	21,000	MECHANICALLY PRODUCED LISTS
(8) SPECIAL INVESTIGATIONS OF VENEREAL-DISEASE CONTROL PROBLEMS	TABULATION, COMPUTATION, ANALYSIS, INTERPRETATION; EDITING, COMPOSITION; TYPING	- -	OCCASIONAL STUDIES
(9) REPORTS OF LABORATORY EXAMINATIONS FOR PNEUMONIA	JOINT SUPERVISION OF CODING; PUNCHING, TABULATING	4,000	TABULATING CARDS
(10) PHYSICIAN'S PNEUMONIA CASE REPORTS	JOINT SUPERVISION OF CODING; PUNCHING, TABULATING	3,200	TABULATING CARDS

TABLE 1 CONCLUDED

(11) COMMUNICABLE DISEASE CASE REPORTS OF PNEUMONIA	(A) PUNCHING PHYSICIAN'S CARD	8,000	TABULATING CARDS
	(B) LISTING	21,000	TABULATING CARDS
		52	MECHANICALLY PRODUCED LISTS
(12) INQUIRY FOR SUPPLE- MENTARY INFORMATION IN CASES OF PNEUMONIA NOT TYPED IN APPROVED TYPING STATIONS	CODING, PUNCHING, TABU- LATING, ANALYSIS, INTER- PRETATION	2,000	TABULATING CARDS
(13) MONTHLY LABORATORY REPORTS	(A) TABULATING TYPE DISTRIBUTIONS	{ 4,000	TAB. CARDS
		{ 900	MACH. TABULATIONS
	(B) SUMMARIZING, LISTING	{ 4,000	TAB. CARDS
		{ 12	MACH. TABULATIONS
		{ 900	REPLICATE LIST- INGS
	(C) LISTING REPORTS RECEIVED	{ 4,000 { 900 {	TAB. CARDS MECHANICALLY PRODUCED LISTS
(14) SEMI-ANNUAL REPORT TO THE PNEUMONIA ADVISORY COUNCIL	COMPUTATION, ANALYSIS, INTERPRETATION; EDITING, COMPOSITION; TYPING, MAN- IFOLDING	2	REPORTS
(15) INVESTIGATION OF SPECIFIC PNEUMONIA CONTROL PROBLEMS	COMPUTATION, ANALYSIS, INTERPRETATION; EDITING, COMPOSITION; TYPING	- -	OCCASIONAL STUDIES

ANALYSIS OF TOOTH MORBIDITY AND MORTALITY FINDINGS. AMONG LONG-RANGE PROJECTS UNDERTAKEN MAY BE MENTIONED THE PREPARATION OF COMPREHENSIVE AGE NORMS OF DENTAL DEFECT IN CHILDREN OF SCHOOL AGE BASED ON THE IMPRESSIVE QUANTITY OF SURVEY DATA AMASSED OVER A PERIOD OF SEVERAL YEARS. IMPORTANT CONTROL STUDIES OF DIAGNOSTIC VARIANCE AND THE RELIABILITY OF ROUTINE DENTAL EXAMINATIONS HAVE BEEN CONDUCTED, AND OPPORTUNITY HAS BEEN FOUND FOR SUCH SPECIAL INVESTIGATIONS OF EPIDEMIOLOGICAL AND OTHER DENTAL HEALTH PROBLEMS AS THE MULTIPLE AND PARTIAL CORRELATION STUDY NOW NEARING COMPLETION, OF ENDEMIC DENTAL FLUOROSIS (MOTTLED ENAMEL) IN RELATION TO COEXISTING DENTAL CARIES AND THE SPECIFIC MINERAL CONTENT OF PUBLIC WATER SUPPLIES.

A TABULAR SUMMARY OF SERVICES PERFORMED FOR THE DIVISION OF DENTAL HEALTH EDUCATION IS PRESENTED IN TABLE 2.

FOR THE DIVISION OF DIAGNOSTIC LABORATORIES, A PUNCHED-CARD SYSTEM HAS BEEN INSTALLED FOR THE TABULATING OF REPORTS OF LABORATORY EXAMINATIONS FOR SYPHILIS AND GONORRHEA, WHICH CONSTITUTE ABOUT THREE-QUARTERS OF THE DIAGNOSTIC WORK PERFORMED BY THE FIVE STATE LABORATORIES. PUNCH CARDS ARE PRODUCED IN THE SPRINGFIELD AND CHICAGO LABORATORIES AND MONTHLY SUMMARIES AND BREAKDOWNS THERE-OF ARE PROVIDED BY THE STATISTICAL OFFICE.

FOR THE DIVISION OF SANITARY ENGINEERING, TABULAR ANALYSES OF REPORTS OF SWIMMING POOL INSPECTIONS HAVE BEEN UNDERTAKEN. IN THE NEAR FUTURE, IT IS PLANNED TO ADD THE TABULATION OF LOG RECORDS OF WATER WELLS.

FOR THE GENERAL ADMINISTRATIVE OFFICE OF THE DEPARTMENT, A PERMANENT PROPERTY INVENTORY HAS BEEN SET UP ON PUNCH CARDS. AT THE END OF EACH FISCAL PERIOD TOTAL LISTS ARE MECHANICALLY PREPARED AS OF CURRENT DATE, AND FOLLOWING THAT MONTHLY ACCESSIONS AND MONTHLY CUMULATIONS ARE ISSUED. TABULATIONS OF PERMANENT PROPERTY INVENTORY BY VENDOR, TYPE OF EQUIPMENT, AND DEPARTMENTAL

TABLE 2

SUMMARY OF SERVICES

EXTENDED TO THE DIVISION OF DENTAL HEALTH EDUCATION, WITH COMPARATIVE ESTIMATES OF THE ANNUAL VOLUME OF OPERATIONS BASED ON EXPERIENCE OF THE CALENDAR YEAR 1939

<u>JOB</u>	<u>PRINCIPAL OPERATIONS INVOLVED</u>	<u>ESTIMATE OF VOLUME</u>	
		COUNT	UNIT
(1) PREPARING DENTAL HEALTH CHART RECEIVED FOR EACH CHILD EXAMINED	SERIALIZING, CODING	70,000	DENTAL CHARTS
(2) PREPARING A CASE HISTORY & DENTAL DIAGNOSIS CARD FOR EACH CHILD EXAMINED	PUNCHING, EXTENDING	70,000	TABULATING CARDS
(3) PREPARING SUMMARY CARD FOR EACH SCHOOL IN WHICH PUPILS ARE EXAMINED	PUNCHING	1,350	TABULATING CARDS
(4) PREPARING PERIODICAL REPORTS			
(A) WORK SHEETS	TABULATING, COMPUTING	70,000	TABULATING CARDS
(B) REPORT TO EACH SCHOOL	TABULATING	9 1,350	REPORTS REPORTS
(C) BALANCING TO CHECK EXTENSIONS	TABULATING	140,000	TABULATING CARDS
(D) TOOTH MORBIDITY AND MORTALITY REPORT BY DENTIST	TABULATING	70,000 9	TABULATING CARDS REPORTS
(E) SCHOOL SUMMARY BY DENTIST	TABULATING	70,000 9	TABULATING CARDS REPORTS
(5) PREPARING COMPREHENSIVE AGE NORMS OF DENTAL DEFECT	SORTING, TABULATING, GRAPHING, INTERPRETATION	50,000 30	TABULATING CARDS TABULATIONS
(A CONTINUING PROJECT CARRIED FORWARD DURING THE SUMMER MONTHS)			
(6) YEAR-TO-YEAR FOLLOW-UP OF CHILDREN RECURRENTLY EXAMINED	COLLATION	5,000	TABULATING CARDS
(7) CONTROL STUDIES OF DIAGNOSTIC VARIANCE AND THE RELIABILITY OF ROUTINE DENTAL EXAMINATIONS	CODING, PUNCHING, EXTENDING, TABULATING; COMPUTING, INTERPRETATION	2	STUDIES
(8) SPECIAL INVESTIGATIONS OF EPIDEMIOLOGICAL AND OTHER DENTAL HEALTH PROBLEMS	TABULATING, COMPUTING; ANALYSIS, INTERPRETATION; EDITING, COMPOSITION.	-----	OCCASIONAL STUDIES

DIVISION ARE ALSO PREPARED. TABULATION BY LOCATION FACILITATES ACTUAL PHYSICAL AUDIT. PAYROLL AND PERSONNEL INFORMATION FOR EACH OF THE 600 REGULAR EMPLOYEES OF THE DEPARTMENT IS ALSO ENTERED ON A PUNCH CARD. THE MONTHLY PAYROLL IS TABULATED FROM THESE CARDS, BREAKDOWNS OF SALARY STATISTICS BY POSITION, TYPE OF WORK, AND AMOUNT OF SALARY ARE PROVIDED; AN ANNUAL REPORT OF TOTAL EARNINGS OF EMPLOYEES IS PREPARED FOR THE STATE AUDITOR; AND FEDERAL INCOME TAX REPORTING OF ALL PERSONS EARNING OVER \$1000 IS READILY DISCHARGED. THE MECHANICAL ACCOUNTING SYSTEM WILL BE EXTENDED SHORTLY TO CONTINUOUS BUDGETARY CONTROL AND ANALYSIS.

A TABULAR SUMMARY OF PRESENT SERVICES PERFORMED FOR THE DIVISION OF DIAGNOSTIC LABORATORIES, THE DIVISION OF SANITARY ENGINEERING, AND THE GENERAL ADMINISTRATIVE OFFICE OF THE DEPARTMENT IS PRESENTED IN TABLE 3.

THE UNDERTAKINGS OUTLINED IN THE FOREGOING DESCRIPTION OF THE PRESENT FUNCTIONS OF THE STATISTICAL OFFICE HAVE ALL ENTAILED THE DESIGN OF SUITABLE TABULATING CARDS, THE CONTRIVANCE OF ADEQUATE TABULATING CODES, THE DRAFTING AND REDRAFTING OF PRIMARY RECORD FORMS, AND THE PREPARATION OF THE NECESSARY TABULATING REPORT FORMS. IN THE INSTITUTION OF IMPROVED METHODS FOR THE MOBILIZATION OF VITAL RECORDS, TECHNICAL CONSULTATION, OFTEN OF A HIGHLY INTRICATE NATURE, HAS BEEN FREELY AFFORDED THE DIVISIONS OF THE DEPARTMENT CONCERNED. FINALLY A DETAILED AND COMPREHENSIVE MANUAL OF PROCEDURE FOR EACH JOB UNDERTAKEN MUST BE PREPARED AND MUST FROM TIME TO TIME UNDERGO THOROUGH REVISION. IN THE CASE OF RAPIDLY EXPANDING CONTROL PROGRAMS, SUCH AS THAT OF PNEUMONIA, REPORT FORMS, TABULATING CARD DESIGN, CODES, AND TABULATING FORMS MAY HAVE TO BE COMPLETELY REDRAFTED AT RELATIVELY SHORT INTERVALS TO KEEP THEM IN CLOSE CONFORMITY WITH CHANGING OBJECTIVES AND THE INSTITUTION OF NEW CONTROL MEASURES AND TO CONSERVE ALL THE VITAL INFORMATION POSSIBLE.

FOREMOST AMONG THE NEW UNDERTAKINGS PROJECTED IS THE COORDINATION OF

TABLE 3

SUMMARY OF SERVICES

EXTENDED TO THE DIVISION OF DIAGNOSTIC LABORATORIES, THE DIVISION OF SANITARY ENGINEERING, AND THE GENERAL ADMINISTRATIVE OFFICE OF THE DEPARTMENT

<u>JOB</u>	<u>PRINCIPAL OPERATIONS INVOLVED</u>	<u>ANNUAL VOLUME OF OPERATIONS</u>	
		<u>COUNT</u>	<u>UNIT</u>
(1) REPORTS OF LABORATORY EXAMIN- ATIONS FOR SYPHILIS AND GONORRHEA	CODING, PUNCHING	500,000	TABULATING CARDS
(2) MONTHLY ANALYSIS OF LABORATORY EXAMIN- ATIONS FOR SYPHILIS AND GONORRHEA	TABULATION, COMPUTATION	48	REPORTS
(3) REPORTS OF SWIMMING POOL IN- SPECTIONS	PUNCHING, TABULATING	250 5	TABULATING CARDS TABULATIONS
(4) PERMANENT PROPERTY INVENTORY	PUNCHING, LISTING, TABULATING	5,000 27	TABULATING CARDS TABULATIONS
(5) PAYROLL AND PERSONNEL INFORMA- TION	PUNCHING, LISTING, TABULATING, ANALYSIS	7,200 564 3	TABULATING CARDS PAYROLLS OCCASIONAL TABULATIONS

COMMUNICABLE DISEASE MORBIDITY AND MORTALITY STATISTICS. OTHER DEPARTURES CONTEMPLATED INCLUDE THE PROCESSING OF REPORTS OF EPIDEMIOLOGICAL FIELD WORKERS, PUBLIC HEALTH NURSES, AND SANITARY INSPECTORS; THE SETTING-UP OF AN ACTIVE FILE OF TUBERCULOSIS PATIENTS; AND THE SUMMARIZING OF COMMUNICABLE DISEASE CASE REPORTS SINCE 1919. FOR THE LATTER PURPOSE A W.P.A. PROJECT IS SCHEDULED TO GO INTO OPERATION ON FEBRUARY 1, 1940. DISTRICT HEALTH OFFICERS WILL BE FURNISHED COPIES OF THIS MATERIAL AS WELL AS CURRENT SUMMARIES. BROKEN DOWN BY PUBLIC HEALTH DISTRICT, BY COUNTIES AND INCORPORATED PLACES WITHIN A GIVEN DISTRICT, BY DISEASE, BY POPULATION CLASS, AGE CLASS, AND SEX AND COLOR, THESE FUNDAMENTAL REFERENCE TABLES, SHOWING BOTH NUMBER OF CASES REPORTED IN EACH CATEGORY AND THE CORRESPONDING CASE RATES, AS WELL AS POPULATION COMPOSITION, WILL AFFORD EACH DISTRICT HEALTH OFFICER A RELATIVELY COMPLETE PICTURE OF THE RECENT HISTORY OF COMMUNICABLE DISEASE MORBIDITY IN HIS DISTRICT AND WILL ALSO ENABLE HIM TO ASCERTAIN BOTH THE PECULIAR PUBLIC HEALTH LIABILITIES OF HIS DISTRICT AND WHATEVER ADVANTAGES, EXEMPTIONS, OR RELATIVE IMMUNITIES THE PARTICULAR DISTRICT OR PARTS THEREOF MAY ENJOY IN COMPARISON WITH OTHER DISTRICTS AND DOWNSTATE ILLINOIS AS A WHOLE. IT IS HOPED EVENTUALLY TO EXTEND THIS VITAL INFORMATION TO REPORTS OF MORTALITY.

ALL STATISTICAL INFORMATION PRODUCED BY THE STATISTICAL OFFICE IS MADE AVAILABLE TO THE DIVISION OF PUBLIC HEALTH INSTRUCTION FOR SELECTION, ELABORATION, AND DISSEMINATION IN DAILY NEWS RELEASES, THE WEEKLY MIMEOGRAPHED BULLETIN ADDRESSED TO LOCAL HEALTH OFFICERS, THE SEMI-MONTHLY ILLINOIS HEALTH MESSENGER, AND OTHER PUBLICITY ORGANS AND EDUCATIONAL MEDIA EMPLOYED BY THE ILLINOIS DEPARTMENT OF PUBLIC HEALTH. FROM TIME TO TIME, JOINT ENTERPRISES ARE INITIATED, AS IN THE CASE OF THE SUCCESSFUL HEALTH POLL OF PUBLIC OPINION AND PERSONAL PRACTICES AND INFORMATION CONDUCTED AT THE 1939 STATE FAIR. IN THIS CONNECTION

MAY ALSO BE MENTIONED THE TABULATION OF SEROLOGIC SURVEY DATA OBTAINED IN THE COURSE OF BLOOD TESTING FOR SYPHILIS AT THE STATE FAIR, OFFERED FREE OF CHARGE TO ALL THOSE WHO REQUEST IT. THIS HAS BECOME A REGULAR ANNUAL FEATURE OF APPARENT EDUCATIONAL SIGNIFICANCE.

THE PROGRAM DEVELOPED BY THE STATISTICAL OFFICE ENVISIONS NOT MERELY MACHINE TABULATING SERVICE WHEREVER IT MAY BE REQUIRED WITHIN THE DEPARTMENT OF PUBLIC HEALTH BUT EMPHASIZES THE SERVICE WHICH CAN BE EXTENDED IN A CRITICAL AND ADVISORY CAPACITY ON ALL QUESTIONS OF STATISTICAL IMPORT RELATING TO THE KEEPING OF ADEQUATE RECORDS AND THEIR EFFECTIVE UTILIZATION. THIS SERVICE ENTAILS THE CAREFUL DESIGN OF ALL RECORD FORMS AND PROCEDURES FROM THE STANDPOINT OF ACTUAL USE. THEIR COORDINATION TO ADMINISTRATIVE PURPOSES, THE ELIMINATION OF UNNECESSARY DUPLICATIONS OF EFFORT, AND THE CONTINUOUS INTERPRETATION OF PUBLIC HEALTH ENDEAVORS AND ACCOMPLISHMENT ARE ENDS ACTIVELY SOUGHT. THE VIEW IS TAKEN THAT MUCH WASTE CAN BE AVOIDED BY CENTRALIZED PRE-PLANNING OF ALL RECORD PROCESSES CONCEIVED IN THEIR ENTIRETY FROM THE MAKING OF THE ORIGINAL ENTRIES TO PRODUCTION OF THE FINISHED REPORT. THE STATISTICAL OFFICE OF THE ILLINOIS DEPARTMENT OF PUBLIC HEALTH PROCEEDS ON THE ASSUMPTION THAT THE VITAL FUNCTIONING OF RECORDS IN THE PROMOTION AND CONTROL OF PUBLIC HEALTH WORK MUST BE THE FOCUS OF SUSTAINED ATTENTION. IT CAN BE SECURED ONLY BY SEVERE SCRUTINY OF PAST PRACTICES AS WELL AS PROPOSED INNOVATIONS FROM THE STANDPOINT OF THE OBJECTS TO BE SERVED, ADEQUACY FOR THE PURPOSE DEFINED, AND THE MAXIMUM FACILITY IN PRODUCTION WHICH CAN BE ATTAINED.

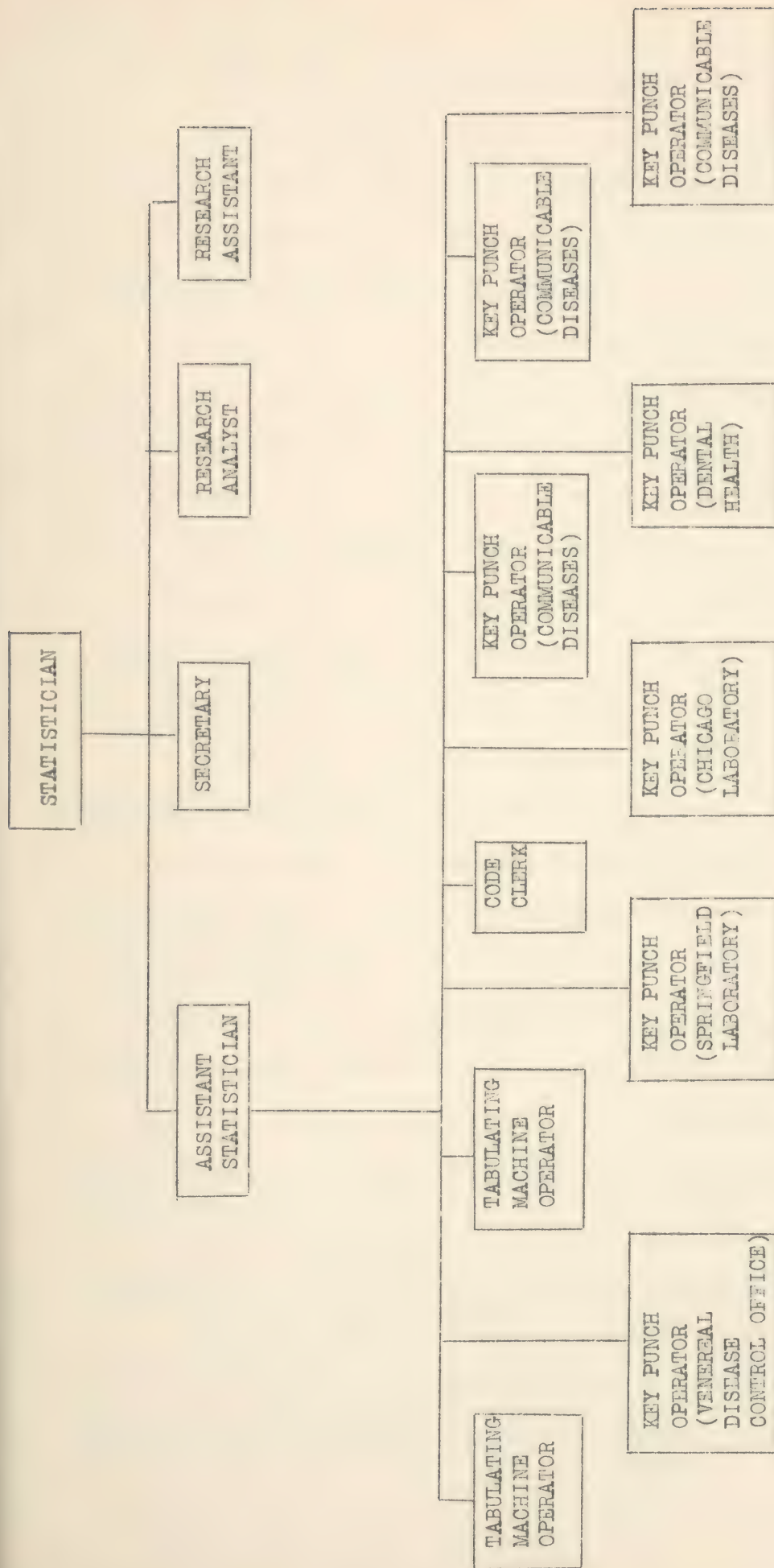


Figure 2

PERSONNEL ORGANIZATION OF THE STATISTICAL OFFICE
OF THE ILLINOIS DEPARTMENT OF PUBLIC HEALTH

PERSONNEL AND EQUIPMENT

THE PRESENT PERSONNEL CONSISTS OF A STATISTICIAN IN CHARGE OF OPERATIONS, A SECRETARY-TYPIST, AN ASSISTANT STATISTICIAN AND PERSONNEL MANAGER, TWO TABULATING MACHINE OPERATORS, ONE CODE CLERK, SEVEN KEY-PUNCH OPERATORS, A RESEARCH ANALYST, AND A RESEARCH ASSISTANT.

THE STATISTICIAN IS RESPONSIBLE FOR ALL STATISTICAL AND ACCOUNTING METHODS USED. HE DESIGNS PUNCHED CARD METHODS AND RECORD SYSTEMS AND MAKES SPECIFIC RECOMMENDATIONS FOR INSTITUTION OF THESE METHODS IN ANY DIVISION OF THE DEPARTMENT. HE IS RESPONSIBLE FOR THE ORGANIZATION OF DATA SOURCES THROUGHOUT THE STATE AND REPRESENTS THE DEPARTMENT IN MATTERS CONCERNING STATISTICAL INTERPRETATION OF HEALTH PROBLEMS. THE STATISTICIAN CONFERS DIRECTLY WITH THE CHIEFS OF DIVISIONS AND IS RESPONSIBLE TO THEM FOR THE DISCHARGE OF SPECIFIC TASKS UNDERTAKEN BY THE STATISTICAL OFFICE.

UNDER SUPERVISION, THE ASSISTANT STATISTICIAN UNDERTAKES THE GATHERING, COMPILING, AND ANALYSIS OF PUBLIC HEALTH STATISTICS. IN PURSUIT OF OBJECTIVES OUTLINED IN CONFERENCE WITH THE STATISTICIAN AND THE RESEARCH ANALYST, HE ASSIGNS MACHINE WORK AND INSTRUCTS MACHINE OPERATIVES IN THE METHOD OF UNFAMILIAR TASKS. THE ASSISTANT STATISTICIAN ASSISTS IN THE DESIGN OF STATISTICAL METHODS. HE DIRECTS AND ASSISTS IN THE PREPARATION OF REPORTS AND ASSEMBLES STATISTICAL TABLES FROM PUNCHED CARD RECORDS OF MORBIDITY AND MORTALITY CASE REPORTS. HE IS RESPONSIBLE FOR THE EFFICIENT SCHEDULING OF TABULATING MACHINE OPERATION AND ASSISTS TABULATING AND KEY-PUNCH OPERATORS WITH DIFFICULTIES OR INTERPRETATION. HE ASSISTS IN THE PREPARATION OF PAYROLL AND BUDGET ACCOUNTING REPORTS AND STATEMENTS OF FUNCTIONAL ANALYSIS OF DEPARTMENTAL EXPENDITURES.

QUALIFICATIONS OF THE ASSISTANT STATISTICIAN INCLUDE GRADUATION FROM A RECOGNIZED COLLEGE OR UNIVERSITY WITH SPECIAL WORK IN ACCOUNTING SYSTEMS AND PROCEDURES, AUDITING METHODS AND STATISTICS AND AT LEAST ONE YEAR OF EXPERIENCE

IN THE OPERATION AND SUPERVISION OF MACHINE TABULATING PROCEDURES IN PAYROLL MAKE-UP ACCOUNTING.

THE RESEARCH ANALYST CONDUCTS SCIENTIFIC INVESTIGATIONS IN ALL PHASES OF PUBLIC HEALTH PROBLEMS. HE SUBMITS RECOMMENDATIONS AND DRAFTS PLANS OF PROCEDURE FOR PROPOSED INVESTIGATIONS. HE ORIGINATES PLANS OF ORGANIZATION, MANAGEMENT, TECHNIC, AND METHODS OF ANALYSIS OF MORBIDITY AND MORTALITY DATA. HE REPRESENTS THE DEPARTMENT IN ESTABLISHING AND MAINTAINING RELATIONS WITH OTHER INTERESTS CARRYING ON WORK IN THIS FIELD. HE PREPARES FOR USE AND PUBLICATION THE RESULTS OF INVESTIGATIONS CONDUCTED.

QUALIFICATIONS OF THE RESEARCH ANALYST INCLUDE A POST-GRADUATE DEGREE FROM A COLLEGE OR UNIVERSITY OF RECOGNIZED STANDING, WITH SPECIAL EMPHASIS ON SUBSTANTIAL GRADUATE WORK IN STATISTICS. EXPERIENCE MUST INCLUDE TWO YEARS OF TEACHING, RESEARCH, OR ADMINISTRATIVE WORK INVOLVING ADVANCED STATISTICAL TECHNIQUE

THE PRESENT MACHINE INSTALLATION CONSISTS OF ONE ALPHABETIC PRINTING TABULATOR, EQUIPPED WITH A DIGIT SELECTOR, THREE ALPHABETIC DUPLICATING KEYPUNCHES TWO NUMERIC DUPLICATING KEYPUNCHES OPERATED IN THE SPRINGFIELD AND CHICAGO LABORATORIES RESPECTIVELY, ONE MECHANICAL NUMERIC KEYPUNCH OPERATED IN THE VENEREAL DISEASE CONTROL OFFICE, ONE VERIFYING KEYPUNCH, ONE GANG-SUMMARY PUNCH EQUIPPED WITH A CONVERTER, ONE ALPHABETIC INTERPRETER, ONE COLLATOR, AND ONE CARD-COUNTING SORTER. ON ORDER IS ONE INTERNATIONAL AUTOMATIC CARRIAGE FOR THE TABULATOR.

THE STATISTICAL OFFICE IS LOCATED AT 201 WEST MONROE STREET, DIAGONALLY OPPOSITE THE CAPITOL BUILDING IN SPRINGFIELD. ITS QUARTERS CONSIST OF THREE ROOMS ON THE BASEMENT FLOOR OF THE FORMER ILLINOIS BANKERS LIFE ASSURANCE BUILDING. SEPARATION OF THE OFFICE PROPER FROM THE MACHINE ROOM WAS ACCOMPLISHED BY PARTITIONING THE ORIGINAL ONE LARGE ROOM. THE THIRD ROOM, ADJOINING THE MACHINE ROOM AND REACHED BY A SHORT CORRIDOR FROM THE OFFICE PROPER, PROVIDES INDISPENSABLE ACCOMMODATION FOR ADDITIONAL FILING AND STORAGE SPACE AS WELL AS ACCESSORY WORK SPACE.

MACHINE TIME ANALYSIS AND CONTROL

THE ADMINISTRATION OF MECHANICAL OPERATIONS IS FACILITATED BY THE USE OF LABOR AND MACHINE ANALYSIS JOB TICKETS, FROM WHICH TABULATING CARDS ARE PUNCHED AND A MONTHLY ANALYSIS IS RUN. THESE PRECISE AND OBJECTIVE ANALYSES MAKE POSSIBLE THE ECONOMIC AND EFFICIENT SCHEDULING OF IMPORTANT MECHANICAL UNITS, ELIMINATING CONFUSION, CONGESTION, AND WASTE. IN THIS MANNER, TABULATOR AND SORTER TIME, FOR INSTANCE, CAN BE ALLOCATED IN ADVANCE IN ACCORDANCE WITH CURRENT JOB REQUIREMENTS BY THE SIMPLE DEVICE OF SETTING UP PREFERENCE SCHEDULES BASED ON THE LATEST TIME ANALYSIS REPORTS. IF, FOR EXAMPLE, THEY HAVE REVEALED THAT A CERTAIN JOB REQUIRES EXTENSIVE TABULATING MACHINE TIME ON THE 5TH, 6TH, AND 7TH OF EACH MONTH AND THAT ANOTHER JOB REQUIRES THE CONTINUOUS USE OF THE TABULATING MACHINE ON THE 9TH AND 10TH OF THE MONTH, FROM THESE FACTS A PRIOR CLAIM ON THE TABULATING MACHINE IS GIVEN TO THE OPERATOR RESPONSIBLE FOR THE PARTICULAR JOBS DURING THE RESPECTIVE PERIODS OF TIME INVOLVED. THIS OBJECTIVE METHOD OF ALLOCATING MACHINE TIME DOES AWAY WITH THE INEVITABLE DISPUTES AND SNARLS WHICH RESULT FROM A HIT OR MISS ASSIGNMENT OF MACHINE TIME.

IT IS ANTICIPATED THAT THIS SYSTEM WILL ALSO BE OF CONSIDERABLE SERVICE IN THE FORMULATION OF ALL FUTURE BUDGET RECOMMENDATIONS.

A SPECIMEN COPY OF THE LABOR AND MACHINE ANALYSIS JOB TICKET IS PRESENTED AS FIGURE 3. UPON BEGINNING EACH NEW OPERATION, THE OPERATOR SIGNS AND DATES ONE OF THESE TICKETS. HE ALSO INDICATES THE JOB WORKED ON, WHETHER COMMUNICABLE DISEASE BIOLOGIC-DRUG DISTRIBUTION (CODE 02), DENTAL HEALTH (CODE 06), VENEREAL DISEASE MORBIDITY (CODE 13), OR WHAT NOT, AND THE MACHINE USED BY MARKING THE NUMBER OF THE MACHINE, IDENTIFIED BY THE LIST SHOWN IN THE MIDDLE OF THE TICKET, IN THE PARENTHESES PRECEDING THE JOB NAME APPEARING IN THE LIST ON THE RIGHT-HAND SIDE OF THE TICKET. FINALLY, THE OPERATOR MARKS IN THE TIME CELLS

LABOR AND MACHINE TIME ANALYSIS

CENTRAL ADMINISTRATION

- () 01 INVENTORY
- () 02 PAYROLL
- () 03 ACCOUNTING
- () 09 OTHER

COMMUNICABLE DISEASES

- () 11 MORBIDITY
- () 12 BIOLOGICALS
- () 13 PNEUMONIA
- () 19 OTHER

VENEREAL DISEASES

- () 21 MORBIDITY
- () 22 DRUGS
- () 23 CLINICS
- () 29 OTHER

VITAL STATISTICS

- () 31 BIRTHS
- () 32 DEATHS
- () 39 OTHER

MISCELLANEOUS

- () 41 LABORATORY
- () 51 DENTAL HEALTH
- () 61 CHILD HYGIENE
- () 71 EXTENSION
- () 81 STATISTICAL
- () 91 REPAIR

SPECIFY REPAIR

() 99 OTHER

SPECIFY OTHER

1 KEY PUNCH

2 VERIFIER

3 SORTER

4 ALPHABETIC TABULATOR

5 SUMMARY PUNCH

6 COLLATOR

7 INTERPRETER

8 CALCULATING MACHINE

9 LABOR

DATE MONTH - DAY

OPERATOR CODE NO.

TIME HRS. - TENTHS

MEMO:

TIMEX

START		STOP		MACHINE	JOB	DATE		OPERATOR	TIME	EXTENSION
HRS.	MIN.	HRS.	MIN.			MO.	DAY			
7	00	7	00	0	0	0	0	0	0	0
8	06	8	06	1	1	1	1	1	1	1
9	12	9	12	2	2	2	2	2	2	2
10	18	10	18	3	3	3	3	3	3	3
11	24	11	24	4	4	4	4	4	4	4
12	30	12	30	5	5	5	5	5	5	5
1	36	1	36	6	6	6	6	6	6	6
2	42	2	42	7	7	7	7	7	7	7
3	48	3	48	8	8	8	8	8	8	8
4	54	4	54	9	9	9	9	9	9	9
5	AM	5	AM	0	0	0	0	0	0	0
6	PM	6	PM	1	1	1	1	1	1	1

USE A SEPARATE TICKET FOR EACH JOB FOR EACH MACHINE
I.B.M. 705404

LICENSED FOR USE UNDER PATENT 1,772,492

69 70 71 72 73 74 75 76 77 78 79 80

ILLINOIS DEPARTMENT OF PUBLIC HEALTH - STATISTICAL OFFICE

FIGURE 3

SPECIMEN COPY OF THE LABOR AND MACHINE

ANALYSIS JOB TICKET

SIDE OF THE TICKET THE TIME OF STARTING THE OPERATION BY CHECKING THE HOUR, AND THE MINUTE, TO THE NEAREST TENTH OF AN HOUR. AT THE CLOSE OF THE OPERATION, THE OPERATOR INDICATES IN A SIMILAR MANNER THE TIME OF STOPPING.

THE TIME SCHEDULE IS AN INGENIOUS FEATURE OF THE JOB TICKET. A CLERK MAKES THE EXTENSIONS REQUIRED QUITE RAPIDLY BY THE SIMPLE EXPEDIENT OF NOTING FIRST THE NUMBER OF SPACES SEPARATING THE HOUR OF STARTING AND STOPPING, RESPECTIVELY, AND SECONDLY THE SEPARATION OF MINUTE OF STARTING AND STOPPING, RESPECTIVELY; READILY PERFORMING THE INDICATED ANNEXATION OR SUBTRACTION; AND RECORDING THE ELAPSED TIME IN HOURS AND DECIMAL PARTS THEREOF. IN THE SPECIMEN COPY ILLUSTRATED, THE VISUAL ESTIMATION OF THE TIME ELAPSED WAS PERFORMED AS FOLLOWS: IT WAS FIRST NOTED THAT THE OPERATION IN QUESTION WAS STOPPED AT THE HOUR FIRST SUCCEEDING THAT AT WHICH IT WAS STARTED AND NEXT THAT IT WAS STOPPED AT THE THIRD TENTH-HOUR SUCCEEDING THAT AT WHICH IT WAS STARTED. THE ELAPSED TIME WAS ACCORDINGLY RECORDED AS 1.3. THE ALTERNATIVE TYPE OF CASE IN WHICH SUBTRACTION IS INVOLVED, MAY BE ILLUSTRATED BY THE FOLLOWING EXAMPLE. SUPPOSE THAT THE OPERATION WAS STARTED AT 1.5⁴ P.M. AND STOPPED AT 4:30 P.M. THE CHART WOULD SHOW THAT THE OPERATION WAS STOPPED AT THE HOUR THIRD SUCCEEDING THAT AT WHICH IT WAS STARTED AND AT THE TENTH-HOUR FOURTH PRECEDING. ACCORDINGLY, 4 TENTHS IS SUBTRACTED FROM 3 HOURS AND THE ELAPSED TIME RECORDED AS 2.6. THE DESIGNATION OF AM AND PM ADAPTS THE 12-HOUR SCHEME PRESENTED TO POSSIBLE NIGHT WORK.

NO DIFFICULTY WAS ENCOUNTERED IN INSTITUTING THE USE OF THESE JOB TICKETS. MARKED FACILITY IN MAKING THE NECESSARY EXTENSIONS IS QUICKLY ACQUIRED BY ANY CLERK TO WHOM THE TASK IS ASSIGNED.

TABULATING CARDS ARE PUNCHED FROM THE ACCUMULATED JOB TICKETS EACH WEEK, AND TABULATIONS ARE RUN EVERY MONTH.

ILLINOIS DEPT. OF PUBLIC HEALTH
STATISTICAL OFFICE

LABOR AND MACHINE ANALYSIS

FOR THE PERIOD FROM: Dec. 1 TO: Dec. 31, 1939

	TOTAL	KEY PUNCH	VERI- FIER	SORTER	ALPHA TAB	SUM PUNCH	COLL- ATOR	INTER- PRETER
ACCOUNTING	1162	848	35	81	105	2	12	79
C D BIOLOGIC	108	50		22	23	5		
C D MORBIDITY	603	497		27	29	1		49
C D PNEUMONIA	314	45	15	60	113	31	32	13
C D OTHER	914	25		484	164	196	29	16
DENTAL HEALTH	1171	733		107	231	87	13	
LABORATORY	2327	2278		37		12		
STATISTICAL DIV	83	63		3	7			6
V D CLINIC	1120	317	43	234	230	178	70	48
V D DRUGS	408	335		12	46	15		
V D MORBIDITY	626	504		39	40	6	1	36
V D OTHER	512	257		93	98	31		27
VITAL STATISTIC	21				21			
MISCELLANEOUS	299	42	7	134	97			5
	9668	5994	100	1333	1204	564	157	279

TABLE 4.

SUMMARY TABULATION OF MACHINE TIME CONSUMED BY THE STATISTICAL OFFICE
DURING THE MONTH OF DECEMBER, 1939, IN UNITS OF TENTH HOURS.

A COPY OF THE ACTUAL SUMMARY TABULATION OF MACHINE TIME CONSUMED BY THE STATISTICAL OFFICE DURING THE MONTH OF DECEMBER, 1939, IS PRESENTED AS TABLE 4. THE NUMBERS APPEARING REPRESENT TENTHS OF HOURS. THUS, IT WILL BE NOTED THAT DURING THE MONTH A TOTAL OF 966.8 MACHINE HOURS WERE UTILIZED. IN THIS TOTAL, THE KEYPUNCHES PREPONDERATE WITH THE SUM OF 599.4 HOURS, AND OF THE TOTAL NUMBER OF 599.4 HOURS DURING WHICH KEYPUNCHES WERE IN OPERATION, THE WORK OF THE DIAGNOSTIC LABORATORIES CONSUMED THE LARGEST SINGLE PROPORTION, NAMELY 227.8 HOURS.